The Journal OF THE South Carolina Medical Association

VOL. XV. GREENVILLE, S. C., SEPTEMBER, 1919 NO. 9

CONTENTS

EDITORIAL DEPT:

The Fourth District Medical Association 555

The Relation of Insects to Disease 55

Did You Order a Hundred Dollar Rebuilt Ford 557

ORIGINAL ARTICLES:

The Etology and Treatment of Epilepsy by J. E. Boone, Jr., M. D., Columbia, S. C. 558

Fractures by John Wallace, M. D., Easley, S. C. 560

My Body—A Means, by John Schieber, M. D., Thomas County, Ga. 563

naphylactic Manifestation of oods in Children by D. L. Smith M. D., Spartanburg, S. C. 535

SOCIETY REPORTS 569

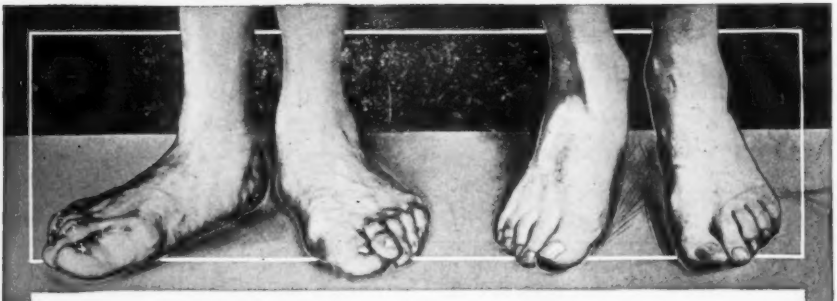
ABSTRACTS 570

The Baker Sanatorium

Colonial Lake **Charleston, S. C.**

ARCHIBALD E. BAKER, M. D., F. A. C. S. Surgeon in Charge.

A New and thoroughly equipped hospital for the care of Surgical patients.



Examine Your Patients' Feet for Structural Weaknesses

Weak or fallen arches or flatfoot are often the direct cause of many bodily complaints such as fatigue, nervousness, pain in legs, sciatica, painful heel, cramped toes and rheumatic symptoms. Mechanical treatment is indicated along with properly fitted shoes.

Dr Scholl's
Corrective Foot Appliances

are especially designed on anatomical and approved orthopedic principles to relieve the cause of the ligamentous strain and correct the abnormal posture. Worn inside the shoes, are comfortable to wear and easily adjustable to meet all conditions as presented to the physician.

Sold at Shoe Stores

Better shoe stores in every locality carry the full line of Dr. Scholl's Corrective Foot Appliances and have also been instructed in how to properly fit them. Write us for the name and address of the dealer nearest you, Doctor, and let us tell you more about mechanical orthopedics of the foot, which subject is attracting so much attention from the medical profession at this time.

Send Coupon for New Pamphlet

*Dr.*_____

*Street*_____

*City*_____ *State*_____

Fill out the coupon for your copy of "Foot Weakness and Correction for the Physician" —just published.

The Scholl Mfg. Co.
213 West Schiller Street
Chicago
New York *Toronto* *London*

The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.
Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE.
J. H. GIBBES, M. D., Columbia, S. C.

PEDIATRICS.
WM. WESTON, M. D., Columbia, S. C.
R. M. POLLITZER, M. D., Charleston, S. C.

OBSTETRICS AND GYNECOLOGY.
ATMAR SMITH, M. D., Charleston, S. C.

GENITO-URINARY DISEASES AND SEROLOGY
M. H. WYMAN, M. D., Columbia, S. C.

SURGERY.
C. T. TYLER, M. D., Greenville, S. C.
R. LEE SANDERS, Memphis, Tenn.

PUBLIC HEALTH.
J. LaBRUCE WARD, M. D., Columbia, S. C.

EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

THE FOURTH DISTRICT MEDICAL ASSOCIATION MEETS

The meeting of the Fourth District Medical Association at Anderson, S. C., Septmeber 16th, was a decidedly successful one. This association is one of the largest in the state, and rivals in many respects the State Association in point of attendance and scientific interest. There were more than fifty doctors present on this occasion. An elegant luncheon was served at the Baptist church and a special feature of this luncheon was an address of welcome by Dr. B. A. Henry to the members of the Association who had been in the service.

The next meeting will be held at Seneca in 1920, under the auspices of the Oconee County Medical Association. The following officers were elected:

Dr. E. A. Hines of Seneca, President.

Dr. Wade Thompson of Anderson, Vice-President.

Dr. W. B. Lyles of Spartanburg, re-elected Secretary and Treasurer.

The Program which was carried out in its main features, follows:

Programme
of the
Thirteenth Annual Meeting
of the
FOURTH DISTRICT MEDICAL ASSOCIATION
Anderson, S. C.
September 16, 1919,
Elk's Hall, 2:20 P. M.
Officers:

Dr. J. R. Young.....President
Dr. Charles Burnett.....Vice-Pres.
Dr. W. B. Lyles.....Sec. & Treas.

Programme

Luncheon, 1:00 P. M at Elk's Hall

"Invocation"—Dr. L. G. Clayton, Central.

Address of Welcome—Dr. C. H. Young, President Anderson Medical Society.

Response—Dr. J. R. Young, Anderson.

1. Carrell-Dakin Solution in Treatment of of Compound Fractures—Dr. W. H. Powe, Greenville
2. Some Recent Observations of Eastern Graduate Schools and Clinics—Dr. E. A. Hines, Seneca.
3. The Use of the Thomas Splint by the Fieled Surgeon in France During the War—Dr. W. C. Marett, Newry.
4. Treatment of Fractures—Dr. L. C. Sanders, Anderson.
5. The Examination of the Heart in Health and Disease—Dr. J. B. Townsend, Anderson.
6. Some Interesting Points on the Feeding of Infants—Dr. D. L. Smith, Spartanburg.
7. Fractures About the Elbow Joint—Dr. R. H. Fike, Chick Springs.
8. Pyelitis—Dr. T. M. Davis, Greenville.
9. Subject Unannounced—Dr. J. L. Valley, Essayist, Pickens County Medical Society.
10. Fractures—Dr. John Wallace, Easley.

THE RELATION OF INSECTS TO DISEASE

Demonstration of the share of certain insects in the causation of disease constitutes one of the most brilliant chapters in the unparalleled record of medical progress made since 1870. Conjecture has given way to assurance, supposition to verified fact. Most investigators probably believe that the greatest triumphs in this fieled have already been accomplished, and that the future hardly holds in store for us very many, if any, more such momentous discoveries as the connection between the mosquito and malaria and yellow fever, the flea and the plague, the louse and typhus. It is perhaps well to bear in mind, however, as W. D. Pierce has recently reminded us,[2] that there are still numerous minor problems to be worked out and that cooperation and organization are especially desirable in this field. Although somewhat formidable in manner and matter, the sequence of "necessary steps" in Pierce's program contains an interesting statement of the point of view of certain entomologists. The emphasis laid on proper methods of handling experimental insects is certainly desirable. His remarks on the importance of cooperation by specialists in different fields will doubtless receive hearty approval. Some of his other suggestions seem rather cumbrous and inapplicable in the present state fo our knowledge: such, for instance, as the proposal that "one might in time of an epidemic start with insects visiting excreta and attempt to ascertain whether the organism of the disease at that time epidemic occurs in any of the insects." Few investigators will maintain that the most important advances in our knowledge of insect-borne diseases have been due to procedure of this character. It is hard to believe that the author has given serious consideration to his statement that "the majority of the investigations which have been seriously undertaken to determine invertebrate carriers have been conducted on other continents than ours." We need only remind ourselves of the pioneer work of Theobald Smith on Texas fever, the memorable discovery of the role of the mosquito in yellow fever, the work of Ricketts and others on typhus and

Rocky Mountain spotted fever, and the recent work of the U. S. Public Health Service on malaria carriers, to see that such an assertion is hardly an adequate recognition of the part played by American men of science in this field.—Journal A. M. A., September 6, 1919.

2. Pierce, W. D.; Necessary Steps in any Attempt to Prove Insect Transmission as Causation of Disease, Science, Aug. 8, 1919, p. 125.

DID YOU ORDER A HUNDRED-DOLLAR REBUILT FORD?

Physician in the Middle West have received a circular letter from the "Anchor Manufacturing Company" of New York city, signed "per E. Maloney." The letter declares that the concern is going to sell, to a limited number of "professional men," a "fine lot of Ford automobiles" that it has purchased from the U. S. government. They are used machines, "all 1917 or 1918 models," but have been thoroughly overhauled "by expert mechanics who have had their training in one of the Ford plants." The price asked is $100, freight prepaid! Fifty dollars must be sent with order ("Liberty Bonds accepted at full face value") and the balance is to be paid after the car is delivered. All worn and defective parts of these cars have been replaced, the upholstering has been renewed, the car repainted, and refinished from top to bottom, fully equipped with new antiskid tires, new inner tubes, side curtains, tools and—an artistic touch—the purchaser would also get, without extra charge, a "manual on care of car with full instructions on driving." To lend an air of verisimilitude to what might otherwise seem to be a bald and unconvincing tale, Mr. Maloney stated that his company was, as an advertising proposition, "going to place twenty cars in that number of communities to which we can refer prospective customers." Their reason for picking out—or should we say "picking on"—doctors was that a "professional man knows and is known by more persons in his locality than any other citizen." The Anchor Manufacturing Company's stationery was somewhat imposing, being, in fact, a rather skilful imitation lithographed letter-head. The company gave as a reference the Chatham and Phenix National Bank of the City of New York, but insisted that all remittances be made payable to the Anchor Manufacturing Company. An Iowa physician, however, was wise; he decided to test out the proposition and sent his check for $50 to the Chatham and Phenix National Bank, telling that institution to forward his letter, money and order to the concern if the company was responsible. In a short time the doctor got his check back with a statement by the Chatham and Phenix National Bank to this effect:

"The Anchor Manufacturing Company referred to us without permission and we have nothing on file to justify an opinion."

After receiving letters from several physicians, indicating that the scheme was being extensively worked, The Journal telegraphed its New York representative to look into the matter. He reports that, according to the renting office of the building in which the "Anchor Manufacturing Company" had desk room, Mr. Maloney had left somewhat hurriedly four days previously, just about an hour ahead of a call from the New York police department. Further, it seems that numerous telegrams and long distance messages have been coming in recently to the renting office of 51 East Forty-Second street, inquiring about the standing of the Anchor Manufacturing company, all

of which may indicate that a number of doctors are "out" a fifty dollar Liberty Bond or a check for that amount. To the shrewd business man the proposition made by the "Anchor Manufacturing Company" is preposterous on its face—but we members of the medical profession are not shrewd business men. Never has there been a time in which the get-rich-quick promoters have been made active than today. It behooves physicians to examine with more than ordinary care the proposals whereby they are offered returns out of all proportion to the investment required.—Journal A. M. A. Sept. 6, 1919.

ORIGINAL ARTICLES

THE ETIOLOGY AND TREATMENT OF EPILEPSY

By J. E. Boone, Jr., M.D.
Assistant Physician State Hospital for the Insane, Columbia, S. C.

WHEN we study the Etiology of Epilepsy we are impressed with the fact that Epilepsy is a definite clinical entity; that under this name are included many symptom groups which differ widely as to their origin. Thus in a notable percentage of cases we meet with neuropathic family histories and in a smaller number a history of collateral or a direct heredity. Defective heredity being the most frequent predisposing cause—according to Spratling appearing in 87% of cases, while in over 15% Epilepsy existed in the parents.

All authorities agree that parental alcoholism is a prolific source of Epilepsy in the offspring and the inference is unavoidable that in a large number of Epilepties there has been a primary, a basic impairment of the germ plasm.

Concerning the evidence of the direct production of Epilepsy in the individual himself by intoxication and infections the evidence is overwhelming. This is notably true of alcohol. Again, the convulsions which at times accompany or usher in the acute infectious diseases of childhood are to be regarded merely as a symptom of the infectious process and are to be explained by a direct toxic action on the brain cortex. Such convulsive seizures generally disappear with the infection, but unfortunately they now and then persist as established Epilepsy. It is probable that in such cases an encephalitis, perhaps limited in area, has occurred during the attacks of the infectious disease and that this has been followed by sclerotic changes, the latter being then sufficient to act as the starting point for Epileptic attacks. Many writers maintain that an organic change of some kind must be present in some region of the brain cortex. Thus malformations of the brain itself are often accompanied with Epilepsy and various stigmata of an Epileptic constitution are described. But more conclusive still is the well known fact that healthy persons who have no hereditary tendencies toward the disease, become Epileptic at various intervals after some injury to the skull. But this view overlooks the difference between primary and exciting causes. A primary cause remains

Prepared for the meeting of the South Carolina Medical Association, Florence, S. C., April 15th, 16th, 1919.

ever the same, but exciting causes vary indefinitely. Those lesions stand to the disease in the relation of exciting causes and nothing more The primary cause, without which the exciting cause would not operate, may be outside the skull and should be dealt with first.

The periodicity of the seizures may possibly be explained by the apparent tendency in the nervous system to a periodical reaction to any continued irritation and if the research work done along this line could be corroborated it would seem probable that idiopathic Epilepsy is due to a toxic condition arising from faulty metabolism and that the immediate cause of the convulsions is the accumulation of deleterious substances in the blood or a faulty chemotaxis of the cortical cells. This theory receives further weight from the fact that the convulsions are frequently accompanied by symptoms which point to intoxication —as drowsiness, headache, nausea, etc. Epilepsy due to circumscribed lesions traumatic or otherwise of the brain can hardly be ascribed to toxicity alone. Even if we should base the known cerebral changes upon a chronic intoxication we would still have to explain the periodicity of the attacks, the accumulation of toxins and also the heredity relationship of Epilepsy.

Complete intermission is a feature of functional diseases of far reaching significance because it shows that the original seat of the malady is different from that of any affection due to a structural derangement.

Epilepsy stands in close relationship to a specific infection. It is well known that Epileptic convulsions are often the precursors of later developing severe organic brain syphilis and also which sometime occur as the first serious expression of general paresis. There is an Epilepsy which cannot be distinguished from the idiopathic form in which a syphilitic infection is the only obtainable etiological factor. This may be due to the strengthening of a hereditary epileptic tendency by lues and the awakening of a latent epileptic predisposition through acquired syphilis. I have had the opportunity of observing three cases, all of these the history of infection was well established. There was no inherited tendency, no head injury, no history of the use of alcohol. There was no inter-current psychic-anomalies—in all of them repeated treatment with mercury and pot. iod. was without influence. Such cases may be regarded as the expression of a cerebral poisoning without any demonstrable lesion of the brain.

The germ theory of Epilepsy has been advocated by a few and much research work has been done along this line, but up to the present a definite relationship between bacteria and Epilepsy has not been determined.

This question about what thing is invariable, all important in the consideration of obscure problems in medicine because of the general principle that whatever is occasional is not essential. It is possible and very probable that many of the lesions found in the brain are the results of Epilepsy and not the causes. No matter how often or how prominently any given symptom or set of symptoms may occur in the course of a disease those symptoms cannot be essentially related to its primary cause if undoubted examples of the disease occur without them. This one fact, that the disease can exist without them at once reduces such occasional accessory relationship to the disease. In other words symptoms may vary, but real causes do not.

Treatment.

As far as the medical treatment of Epilepsy is concerned little can be done

except to attend to the bodily needs and combat any unfavorable symptoms which may arise. On the other hand moral treatment by which is meant suitable occupation or diversion, outdoor life, educational efforts to retard the progress of deterioration and conserve what mental equipment is left, is of the highest value and an absolute necessity.

It is here that I wish to condemn the excessive use of bromides because following repeated doses the patient becomes dull, stupid and indifferent, all mental processes and voluntary movements sluggish, memory defective, general tone less, loss of appetite, nausea, constipation and a general lowering of vitality and vigor. This is the state into which many Epileptics are brought by excessive use of bromides and I feel that it would be better to take some risk of convulsions rather than to bring a patient into such a hopeless condition of uselessness.

Innumerable remedies have been used to control or abort the seizures, their utility is somewhat doubtful.

Eliminative and supporting treatment is of the highest importance. Free and regular evacuations of bowels and bladder, promotion of normal skin action, proper clothing, frequent baths, diet should be regulated and easily digestible.

When Status Epilepticus occurs a lumbar puncture should be done and about 10 c. c. of spinal fluid drawn. If done early this will often abort a fatal issue. Morphine or hyoscine are usually given. Rectal lavage and strict confinement to bed have given satisfactory results in some cases.

Treatment directed to the cause of Epilepsy is not promising if the disease has been of too long duration. Hence, head operations are usually contra-indicated. The time to operate for trauma, etc., is when the lesion occurs or immediately thereafter.

The prevention of Epilepsy can only be secured by preventing marriages of the Epileptics, the insane, the defective and the alcoholics.

Finally in view of the liability to assaults and injuries to self or others any Epileptic should be under constant supervision at all times.

FRACTURES

By John Wallace, M.D., Easley, S. C.

HAVING been elected by my County Society, under protest, to read a paper on fractures before this scientific body, and having been on active service in the United States army for a period of twenty-six months, ending July 12th, 1919, the writer is forced to briefly review his experience with fractures as seen and treated chiefly in an Evacuation Hospital in France.

The main object of this paper is to impress upon those of you who did not have the great privilege of serving with the soldiers in the field, durin the world war, a few important points, and especially with regard to the treatment of fractures by the use of very simple splints and appliances adopted and used so intelligently and effectively by the Medical Department.

The writer shall not attempt even to mention all of this apparatus, as time would not permit. Many of these splints and appliances could be used with satisfaction and to a great advantage by all civilian physicians who attempt to do fracture work, because of their simplicity.

Bone and joint injuries comprised a large proportion of the battle casualties, and fractures of the long bones

Read before the Fourth District Medical Society, Anderson, S. C., September 16, 1919.

and joints were more in evidence, therefore mention will be made of joints only in connection with fracture.

The femur was probably the most frequently involved bone, and the knee the most frequent joint.

Immediately after arrival in France, the writer was ordered to Base Hospital No. 9, at Chateaureaux, for four days, where nothing but orthopedic cases were received and treated. Here a most wonderful and excellent opportunity was given to study the cases of severe fracture as they would come back from the front, and the treatment of these cases, which was most valuable to those of us who expected to go directly to the front, chiefly because of the errors of operation and splinting which were evident after transportation. One was most impressed with the care and treatment of fractures of the long bones and injuries to the knee joint especially. It was interesting to note that the same simple splints and appliances used at the front were used in the base hospitals, with comparatively little modification, addition and correction.

Many of the fractures seen were comminnuted, or splinter fractures, and most of them compound, for during the last part of the war shrapnel balls, shell casings and hand grenades, also occasional rifle bullets at close range were quite in evidence, which caused ghastly wounds and fractures. Foreign bodies from the above, as well as pieces of clothing and skin being carried deeply into the wounds and consequent fragments of bone also acting as projectiles and tearing into the soft surrounding tissues. It might be added here that during the last few days of battle in the Argonne most of the wounds were from machine gun bullets.

Your time will not be occupied here with all of the various types and classifications of these fractures. X-ray or flouroscopic examinations, or both, were made of all cases, and of those to be operated one had some idea of what was to be done before hand. In many cases of so-called perforating fracture, i. e., where a bullett at long range would pass through the bone and entirely out through the other side, causing only a hole in the bone, and if the picture showed no foreign material, and the wound no signs of gas gangrene, these were not operated upon, but dressed, properly splinted and evacuated. In severe cases with shattered bones, great care was taken to remove all dead or damaged soft tissue, all foreign bodies, including pieces of bone, being well assured that no portion of bone was left which was not attached and well supplied with blood and some healthy surrounding tissues, as some secondary operations had to be done to remove this dead bone, acting as foreign bodies, thus furnishing a constant source of infection. Over conservatism was not found to be wise. The same principles apply to any other foreign body in an open wound. The pulse was always sought for distal to the wound. After thorough operation, or debridement as it was called, these wounds were cleansed with sterile ivory soap and water, with a little glycerine, or with Dakins Solution soaked in a gauze sponge. The wounds were filled thoroughly and gently, (but not packed) with sterile gauze, in order to allow some drainage and keep the wound well open from the bottom. The tight packing of wounds seemed to favor gas gangrene. The Carrell-Dakin method of treatment was used in the majority of these cases at the rear, or base hsopitals.

Fractures involving joints and epiphyses were treated in a similar man-

ner, being especially careful never to leave a foreign body within the joint cavity. Free incisions were made in order to see what you were doing, in all cases of intra-articular compound fractures, many of which were communicated, the excision of all dead and severely injured tissues being done in one piece including damaged synovial membrane, where ever possible, much care being taken to ligate every single bleeding vessel, however small, within the joint, and the cavity gently cleansed of all blood clots, then the synovial membrane was closed with catgut suture always, except in cases which showed slight infection, when a gap was left in the line of suture for drainage, the rubber tubes were inserted down to, but not within, the joint cavity.

In cases of known and severer infection, the synovial membrane was pulled up and stitched to the skin for drainage, rather than insert drainage into the cavity. Great care was taken to preserve as much articular cartilage as possible, every particle of good cartilage being necessary for the future integrity of the joint movement. Immobility was always secured, of course, by splints before the patient left the operating table. The experience gained by the profession in the treatment of these cases during the war is undoubtedly of inestimable value.

Now we come to the splints and appliances adopted by the army and standardized by a board of efficient medical officers in the A. E. F. These splints properly applied constitute by far the most important part in the treatment of fractures. The simplicity of these splints and appliances, and the ease with which the average physician can apply them with comparatively good results, as well as comfort to the patient in practically all fractures as mentioned, makes the subject well worth consideration, for there is little difference in the splinting of fractures in war and those of civil life. In mentioning a few of these splints and appliances, and in attempting to explain the mechanical principles and what is hoped to be attained, the writer has referred to, and gained much information from, The Manual of Splints and Appliances for the use of the Medical Department of the United States Army, 2nd edition, 1918, and is greatly indebted to the board of medical officers who standardized these splints and their application, namely:

Brig. Gen. J. M. T. Finney, M. C.
Col. Wm. L. Keller, M. C.
Lt. Col. Nathaniel Allison, M. C.
Lt. Col. Joseph A. Blanke, M. C.
Lt. Col. Joel E. Goldthwait, M. C.
Maj. Sidney R. Burnap, M. C.

It is needless to say that these men were on active service at various stations in the A. E. F.

The splints used in mobile and evacuation hospitals were few in number and the feature of interest is that each embodies one or both of the following principles, according to the requirements of the case. By splinting fractures we endeavor to obtain comfort for the patient and assistance in healing the lesion. The ends sought are accomplished by apparatus which causes the least discomfort to the patient by its application which produces no pressure upon sensitive parts, and which secures immobility for the injured part. These ends are secured by two mechanical principles, fixation and traction. Fixation to retain proper alignment after it has been secured, to favor union in fractured bones. In order to obtain satisfactory fixation the material used must always extend well above and below the lesion. This is a very important point. The fixation splints used in these haspitals were

the Snow Shoe Little, Long Liston Splint, Cabot Posterior Wire, Wrist, Hand and Wire Ladder Splinting and Board. In some exceptional instances Plaster of Paris casts and shells were used. Traction obtains muscular relaxation, diminishes pain and inhibits contraction of the muscles, thereby preventing malposition, secures proper alignment by a pull in the direction of normal anatomical lines, and prevents displacement of bone fragments, with consequent laceration of surrounding tissues. Traction splints were used wherever possible in fractures of all long bones, and injuries to the knee and elbow. The traction splints used chiefly in mobile and evacuation hospitals were the Hinged Traction Arm Splint, Thomas Traction Thigh and Leg Splint, Hinged Half Ring Thigh and Leg Splint. Traction was obtained mainly by means of adhesive plaster to the skin, the other ends being tied to the end of the splint, and further traction made by a small piece of wood or a nail placed between these ends and twisted. Care was taken not to constrict the limb.

All wounds can be easily dressed without interference with the splints or discomfort to the patient, as the limb is supported below by slings of cloth placed at intervals and firmly attached to the lateral bars of the splints by safety pins or clips. The position of the bone fragments can be controlled to a great extent by careful adjustment of these slings. The Wire Foot Support and Wire Splint Rest, which can be attached to the traction leg splints, are very valuable, especially during transportation of the patient. The foot support holds the foot at right angles to the leg. The splint rest holds the splint steady on the body and stretcher.

The writer suggests that physicians of rural communities get together and purchase a set of these splints for at least each community, or county, and study the splints and their uses and application in the county societies. It is believed that great benefit will be derived by the physician and his patients from such action.

MY BODY—A MEANS

By John Schieber, M.D.
Commissioner of Health Thomas County, Georgia.

LEST we forget, Sanitation and Hygiene once meant one and the same thing; that is both meant Hygiene. But as we realize that the environment in which we live is often a determining factor as whether we shall be well or sick, whether we shall live or die, we find it necessary to devise ways and means to bring about an environment which will not cause us to sicken, and to obtain such surroundings we must have Sanitarians and Sanitation, as well as Hygienist and Hygiene.

But we cannot get away from the fact that the diseases which we are trying to prevent find their origin in man; that they spread from man to man; and we are forever finding man the starter of all trouble, and the environment only an accessory before the fact in court parlance; the go-between, as I might call it, in the spread of disease.

As Sanitarians we must all see the need of mosquito control in the prevention of malaria, but we must implore and insist that the medical profession search more diligently for the fellow that carries the infecting plasmodium. And while we are waiting for funds to get a piece of drainage done, are we mindful enough of the importance of educating the public, as

Read before the Southeastern Sanitary Association, Rome, Ga., May 12, 1919.

well as the profession, that microscopic examination should never be omitted in the examination of a patient.

If I am clear of malaria I cannot infect the mosquito; more than that I cannot give malaria to my family, my friends and my neighbors. If I immunize myself against typhoid fever I not only escape the disease myself, but I again protect my family, my friends and my community, because my disease-free body does not spread disease.

Then if I cannot get a pure water supply; if I cannot get a safe sewage disposal system, I should work the harder to get my people to take the typhoid vaccine, and make more and more people immune to this disease, because these immunized people thus not only remain well themselves from this disease, but for this reason they also do not spread the disease to others, and people who take the vaccine thus raise the health rate and the sanitation of their environment.

Not all, nor even twenty-five per cent. of the population of our county have had anti-typhoid vaccine, yet typhoid has dropped from between three hundred and four hundred cases a year to twenty-five cases in 1917, and eighteen cases in 1918.

The eighteen cases we had in 1918 cannot possibly spread the disease that the three hundred and sixty cases did in earlier years, and here we see again that the important thing is that the healthy do not spread disease.

Thus these people who have kept themselves free from typhoid by immunizing themselves have been the means, not only of keeping well themselves, but of insuring us all a more healthful environment to live in.

The ranks of the Great White Plague is kept filled by the tubercular.

If I rise early in the morning, when the air is pure and sweet, and the dew is on the ground; if I spend fifteen or twenty minutes in health promoting exercise; take twenty deep inhalations and as many forced exhalations flushing every nook and corner of my lungs with clean pure air; if I repeat this exercise three times in the day, and again when retiring, and sleep in a room with the windows open, then I may mingle with the tubercular with comparative safety; I may travel in the valley of no evil for the cougher and spitter will not harm me. I will not take sick, and more than this I will not make others sick; here again, a hygienic life, keeping physically fit, insures not only health to myself, but also insures a safer environment for those that that mingle with me, must live with me. Here again a hygienic life insures a sanitary environment.

Every time a hookworm case is cured we have removed a chief offender in the spread of this disease, and it is deplorable to see what a great number of children still go for years taking medicines for various minor ailments, when an undiscovered hookworm infection is the main trouble. If it is good hygiene to remove the dirt from under ones nails, it is good hygiene to remove a destructive parasite from the alimentary canal, and this results in good sanitation as well.

It is said that the American people drink, rub on, inject and smear on $500,000,000 worth of drugs, and that four-fifths fo this is self prescribed; just bought and used by people who know nothing about medicine, at least nothing worth knowing as to its therapeutic value.

The other one-fifth is prescribed by physicians, and I am satisfied that the doctor will admit that eight-tenths of this that they use is of very debatable usefulness as a curative agent.

It is further said that while we have made some wonderful advances in the

prevention of infectious diseases, we have permitted an increase of nearly 20 per cent. in the death rate of chronic diseases in the past ten years. Deaths due to Brights disease, arterio sclerosis, nervous diseases, dyspepsias, and so on, all due to faulty hygiene, and preventable by introducing a sensible regime into our daily lives; a regime that provides an intelligent use of air, exercise, a rational dietary, and a liberal use of water internally and externally.

It seems to me that we have not gone far enough on the way as yet, so that Sanitarians can afford to specialize entirely on environmental hygiene; that we should not forget that we lack a sufficient number of teachers of hygiene in our several districts, and we certainly should give a generous part of our time to pushing and aiding every movement that makes for better and better health for the individual.

We should especially work for physical education and insist that every school child in our district gets the benefit of a regular and definite amount of physical culture every day as part of the school curriculum. Let it be understood that if the school system does not include an expert teacher in this department of training, that the health officer should see that the child gets only such training as is really hygienic.

My office has adopted a set of setup exercises for school children, and something like two thousand children in the rural schools have used these exercises the past few months; the children enjoy them immensely, and principals are reporting remarkable benefits, both physical and mental as the result of their use.

We are now working to get these exercises adopted into the curriculum of the rural schools of Thomas County, and when we do something like six thousand children will soon show marked improvement in posture, movement and mentality. We have been using mostly the "Daily Dozen Setup" as recommended by the Committee on Physical Reserve of the National Security League.

We should be behind every movement, aye, we should be the promoters of all attempts to provide more out-of-door recreation for men, women and children, urging especially for all these the hygienic, exhiliarating and joy inspiring game of volley ball.

All women should be encouraged to play volley ball, and certainly all business men should get out and play volley ball evenings after closing the office.

My office is now teaching volley ball to the girls in the high schools, grammar schools and the Camp Fire Girls are promising us that they will help towards getting their parents to play volley ball also.

Let us remember that sanitation is for man; that a healthful body and an extended life is the end we seek, and that a sound and healthful body does not spread disease, and hence, is in itself a means towards the maintenance of a better environmental hygiene; a better sanitation if you please.

ANAPHYLACTIC MANIFESTATION OF FOODS IN CHILDREN

By
D. L. Smith, M. D., Spartanburg, S. C.

THIS subject has commanded a great deal of attention of research workers in the past few years and much interest is being manifested in the outcome of its study. As the manifestations are more pronounce-

Read before the South Carolina Medical Association, Florence, S. C., April 15, 16, 1919.

ed in children than in the adult, the bulk of the work done is by the various pediatricians of the country and the journals on pediatrics have been carrying articles on this subject.

We used to term these manifestations idiosyncracies and felt that that was the end of it, but, with the use of the protein, we are able to definitely determine the particular protein that is causing the reaction and perfect a cure as the result of it.

Theobald Smith was the first, in 1904, to describe the phenomena of anaphylactic shock, and it has since been termed "Theobald Smith Phenomena." His work was done however, in reference to diphtheria anti-toxin for horse serum. The various research laboratories have their special men who are carrying on experiments with the proteins. At present, prominent among them might be mentioned I. Chandler Walker, Harvard University, Baker, of the Children's Department, and Dr. Talbott of the Massachusetts General Hospital. In 1908 Anderson and Rosenau suggested that certain cases of food idiosynerasies were due to a previous sensitization of the individual, in a manner unknown, to certain food proteins, they regarded this as a manifestation of anaphylaxis.

These various phenomena manifest themselves in the form of eczema, asthenia or various nervous conditions. The various food protein or allegerna, as called by some men, are put on the market by several drug houses at present. The test is made in the following manner: Bare the forearms and wash the inner surface where the application is to be made. There are several ways of testing a patient in order to determine whether or not he may be sensitive to the protein. One commonly used is known as the cutaneous test. A number of small cuts not deep enough to draw blood although to penetrate the skin are made on the flexor surface of the forearm. They are best made with a dull pointed needle. On each cut is placed a protein and to it is added a drop of tenth normal sodium hydroxide solution to dissolve the protein and to permit of its rapid absorption. At the end of twenty minutes to half hour the reaction is noticed. In some cases a positive reaction will appear in a few minutes after the application. The positive reaction consists of a raised point, elevation or urticarial wheal surrounding the cut. The smallest reaction that we pronounce positive must measure five-tenths CM. in diameter and any smaller reactions are called doubtful. Negative skin tests with proteins rule out those proteins positively as a cause of trouble in the individual. There is no systematic effect following the application of this diagnostic test, when properly employed.

In the series of cases studied by White there were twenty-four cases of moist, oozing, crusting eczema. Four patients gave entirely negative tests and in six the controls were positive. Fourteen patients reacted positively to fat-free milk; nine to egg albumin; thirteen to salt-free butter, and six to lactose or to oatmeal water. There were twenty-four cases of red, infiltrated, dry and scaling eczema. Five patients gave entirely negative tests and in nine the controls were positive. Sixteen patients reacted positively to fat-free milk; twelve to egg albumin; sixteen to salt-free butter, and seven to lactose or to oatmeal water. There were three cases of papular eczema. None gave entirely negative tests and in two the controls were positive. Two patients reacted positively to fat-free milk; three to egg albumin; two to salt-free butter, and two to lactose or to oatmeal water. There were two cases of lichenoid eczema. One pati-

ent gave entirely negative tests and the other reacted positively to fat-free milk. There were two patients in whom the only symptom was an infiltrated, leathery skin. One of these individuals gave entirely negative tests and the other reacted positively to fat-free milk, to egg albumin and to salt-free butter. There was one patient who exhibited merely excoriations due to intense pruritus. This individual reacted positively to egg albumin and to salt-free butter and one of the controls was also positive.

From these facts and from other investigations, not detailed White makes the following deductions on the question of food in its relations to chronic eczema at various stages of life. Eczematous infants usually present in their stools an excess of fat or of starch. An excess of the former element generally means a moist eczema, of the latter, a dry type. When eczema is present and neither fat nor starch appears in the excessive amounts in the feces, look for susceptibility to egg albumin or to milk, or in default of all these more common causes, to a diminished thyroid secretion.

Each food produces fairly constant skin lesions. (a) Urticaria occurs more frequently than erythemata; fish, tomatoes and cheese only producing urticaria, while cereals and pork produce erythemata in a considerable proportion of cases. (b) Tomatoes and cereals usually produce these lesions within an hour after ingestion. (c) The eruptions usually persist less than twenty-four hours. (d) The peculiar reaction of ingestion of eggs, cereals and pork are inherited in a considerable percentage of cases. (e) The skin manifestations in more than one-half of their cases of sensibility to egg ingestion were accompanied by cough and dyspnea. Most but apparently not all, urticarias and erythemata following ingestion of these proteids are due to phenomena similar to those observed in an anaphylaxis. The etiologic factors are summarized by McBride and Schorer as follows:

A. Sensitization or true anaphylaxis to (1) foods as such, (2) foods as changed by parasites, (3) food as changed during disease. B. Consumption of partially decomposed or spoiled foods. C. Simple idiosyncracy. To determine the particular food causing the manifestations, feeding and injection tests are of the greatest importance. Parasites and other causes of disease must be looked for.

Nursing babies which usually suffer with eczema, the moist variety show free fat in great quantities in the stools and the only way to cure them is to get rid of the fat indigestion. I have many of these cases and until I realized the cause found them most difficult to cure. Now it is a very simple matter and it is done without use of drugs, simply ascertain if it is due to the baby not being able to digest the normal amount of fat or if the mother's milk contains too high a percentage of fats and treat the conditions found.

Walker has a splendid report of his results with asthma and while it is not confined to children his series of four hundred cases over one hundred were under the five year limit. The younger the subject the higher the percentage of reaction to the proteins. Under two years 30 cases were tested and 83% reacted to some protein. Two to five of 30 cases 90% reacted. Five to 10, 37 cases 40% reacted.

Sensitization to the protein in White's series were far more frequent in those that began to have asthma in infancy. Of nine patients who began to have asthma between the age of two and five, two showed a reaction to egg and five to the cereal proteins. Of six

that were sensitive to food proteins, 35 to the cereal grains. Of these, 35, 25 showed to wheat alone, three to corn, two to rice and the remaining five to many of the various cereals. Among the remaining 33 food cases 13 were sensitive to egg, five to caseine eight to fish, seven to potato. Multiple sensitization is frequent and much more so in infancy than in the older patients of White's series.

A positive skin test with several different proteins may mean that all of them are causing asthma or that only some of them at present and that the others have been or may in the future. Suffice it to say that a positive reaction which seems to have no bearing on the case should be a danger signal and not as a false reaction, such positive tests should not be disregarded.

Case 1.—E. S. age four years, second child, breast fed up to 12th month and mixed fed since it came to me in June, 1917, with a history of convulsive seizures at night. Examination and history were negative as to specific disease. Father died of T. B., VonPirquet negative, X-ray of chest showed lungs negative and no enlargement of Thymus or other glands. I had the opportunity to see many of these attacks which I determined were not true epilepsy but of a spasmophiliae. I tested him with the proteins of the foods he was taking and he showed a marked reaction to milk, beef and oatmeal. We discontinued the use of these and he had no attacks for a month when I determined to prove my results so, with mother's consent, I gave him some beef broth and that night he had an attack. After a few days we tried him on milk with same results.

He has not had a return of these convulsions since and by gradual addition of small quantities of these foods he is now able to take limited amounts of them without bad effects.

Case 2.—E. G. age two years. Normal birth. Breast fed up to 12th month then indiscriminately fed. Large healthy child well developed and normal in every respect.

Admitted to the Baby Hospital Saluda, N. C., August 3, 1918. She had moist eczema on the back of her neck extending from the hair line to the tips of shoulders. Various salves had been used for three weeks without results. I tested her with the proteins and she showed a marked reaction to Irish potato and beef. Stools showed no free fats or fatty acids. We put her on a diet excluding the beef and potatoes and without any other treatment she improved rapidly and was discharged at the end of two weeks with all skin lesions gone.

Case 3.—Age six years. Normal in every respect except for a rrusting eczema of face of four months duration which had resisted all treatment of the various salves. Skin test with proteins showed marked reaction to eggs and wheat. We excluded these and she improved rapidly, mother phoning me at the end of two weeks that rash had entirely disappeared. Five months later I was called to see her again with the same trouble and the mother reported that while she was sick with the flu the child had been allowed to eat the forbidden things. I again put her on the same diet and the rash has disappeared.

I see numbers of cases every year that come to me following summer diarrhea that have been on egg albumin that are in serious condition due to the anaphylactic reaction of the egg. The temperature, and the rashes clear up almost like magic when the albumin is withdrawn and the food regulated. All of these babies have an upset later if put on egg. I have only

tried three with the skin test and they showed marked reaction.

I have several cases of asthma that I have worked out to report at this time, but the length of this paper will not permit me to intrude upon your valuable time longer.

Conclusions.

The skin test with the proteins, while not always absolutely reliable, I believe will be developed in the next few years. It should be used in all cases of eczema, asthma or other food idiosyncrasies

F. Luat was able to demonstrate permeability in older children egg albumin and beef proteins and could confirm his results by demonstrating precipitines in the blood and by other immunological test. Frizo found similar positive proof in the infants with cows milk idiosyncracies. He could demonstrate precipitines and complement fixing bodies in the blood during the period of active disturbance.

Lusk reports a case of aggravated aryngospass spasms which was due to cows milk, which cleared up upon withdrawal of cows milk.

SOCIETY REPORTS

SUMTER—TRIBUTE TO DR. CHEYNE

A committee appointed by the President of the Sumter County Medical Society to draft resolutions relative to the death of their late associate, Dr. Walter Cheyne, met and drafted the following resolutions:

Whereas God in his divine wisdom removed from our midst our friend and associate, therefore be it resolved:

First: That in the death of Dr. Walter Cheyne, the Sumter County Medical Society has lost an enthusiastic, active and energetic member.

Second: In his death there will be a distinct loss felt by his co-laborers, his patients, whom he faithfully and efficiently served, and the public at large.

Third: That the sympathy of the members of the Sumter County Medical Society be extended to his bereaved family, and that a copy of these resolutions be sent to them and published in the Daily Item and in the Journal of the South Carolina Medical Association.

Fourth: That these resolutions be inscribed on a page of our minute book, together with date of his birth and death.

H. L. SHAW,
H. M. STUCKEY,
ARCHIE CHINA.

August 20, 1919.

ABSTRACTS

POSTINFLUENZAL PSYCHOSES

E. W. Fell, Cincinnati (Journal A. M., June 7, 1919) reports on the cases of mental disorder associated with or following influenza and treated at the Walter Reed General Hospital. Out of 2,500 cases of influenza treated, there were twenty cases selected as meeting the conditions required for a diagnosis of mental disease. Only four of these developed during the influenza attack psychoses of a severe type, which outlasted the acute disease. These twenty cases of postinfluenzal phychoses fall fairly clearly into three groups: (1) manic-depressive, 8; (2) infective psychosis, 7; (3) dementia praecox, 5 cases. This classification overlaps as regards the groups, and may be considered as a series, grading from simple depression to hebephrenic praecox of the depressed type, the chief characteristic of the series being a foundation of depression on which developed sense falsification, confusion and schizophrenic symptoms. Predisposition, as shown in family or personal history, was only marked in the manic-depressive type of cases. The dementia praecox cases did not necessarily become permanent, but their prognosis as to recovery was less favorbale. Hallucinations were entirely absent in seven cases. The most common symptoms were mental depression. Fell does not include in these cases those which occurred with more than a month of normality between the end of the influenzal attack and the first appearance of mental disorder. Nor does he include definite organic psychoses coming to attention but not clearly the effects of the influenza. In cases occurring later than a month there would be great doubt as to the etiologic significance of the influenza.

TRANSFUSION

Edward Lindeman, New York (Journal A. M. A., June 7, 1919, reports 214 consecutive blood transfusions without a chill performed by him with the syringe-cannula method, devised by him and described in 1913 (American Journal of Diseases of Children, July, 1913, to which he refers. He redescribes at length the method with all its improvements, and claims the following advantages: "The blood passes through a minimum amount of foreign material. There is no blind system into which air may leak, and there are no rubber tubings, stop-cocks or valves around which blood may clot. No anticoagulants and no foreign material are introduced into the patient." Formerly a little salt solution was injected but has been found unnecessary. The essential factors for successful transfusion, as given by Lindeman, are: 1. The method must be applicable to any case and any disease. 2. It must be possible to transfuse a sufficient amount to meet the indications. 3. The blood must be transfused in its natural state. 4. This method calls for a minimum of foreign material through which the blood must pass. 5. It must pass from the donor to the patient in the least possible length of time. 6. Reactions must be absent. At least four cases for reaction are possible: (1) hemolysis and agglutination; (2) toxic substances developed in the blood outside the body; (3) chemicals such as anticoagulants and

sodium solution, and (4) sensitization and anaphylaxis. In the author's first 150 transfusions, 33 per cent. were followed by chills and fever. The previous hemolytic tests were rather crude, and he set himself to finding means of avoiding these reactions. In the 146 transfusions following, only nine per cent. were followed by chills, and this improvement was followed by a later series of 214 cases without a chill. This series omits transfusion of less than 1,000 c.c., and tables are given showing the results in pernicious anemia and other conditions. The posttransfusion temperature is often somewhat higher, when amounts above 1,400 c.c. are given. During the period of fever, which sometimes follows 24 hours after and may last for two or three days, the patients will frequently suffer from slight malaise and lack of appetite; at other times, exhilaration, restlessness and insomnia occur. When the temperature reaches normal the full benefit of the transfusion is felt as a rule. Transitory urticaria sometimes appears but is apparently of little consequence. In four cases bronchospasms occurred after the first transfusion, but have not occurred in later ones with the same cases. Of his series 108 were for pernicious anemia, and in some cases 15 to 20 transfusions were made. A posttransfusion rise of temperature occurred in 18.5 per cent. of all cases, in 12 per cent. of 26 cases hemorrhage cases, and 12.5 per cent. of 80 miscellaneous cases. Lindeman does not favor the use of citrated blood, and believes that it increases the liability to reactions. In cases requiring repeated transfusions, the need of a perfect method is greater, to avoid disturbance of the labile elements of the blood and sensitization to subsequent transfusion. He thinks it would be well for a person advising transfusion to think of all the possibilities, and advises that one with experinece be called on to perform the operation. When one uses transfusion only occasionally, the less he does of it the better. It is a life-saving measure in the hands of the skilled, and it is especially in diseases other than hemorrhage that work of the best character is of paramount importance.

URETER AND RENAL PELVIS

W. F. Braasch, Rochester, Minn., (Journal A. M. A., Sept. 6, 1919), devoted his chairman's address before the Section on Urology mainly to a discussion of the dilation of the ureter and the renal pelvis. The mechanical obstructions were first noted, but greater space was given to the inflammatory dilatations. He finds that dilatation of the ureter and the renal pelvis may occur without mechanical causes, and the difference between the mechanical and the inflammatory dilatations, in their anatomy and pathology, and in the clinical signs, are quite definite. The clinical demonstration of such conditions may be of much diagnostic value. Cases have been described of what is called atonic dilatation, due to paralysis of the bladder from nervous disease; or occurring in some cases without known cause. Congenital constriction is so rare as to be almost negligible and probably the cases described as such are often due to an acquired mechanical obstruction. The details of the condition are fully given and the article is illustrated.

SYNTHETIC DRUGS

P. N. Leech, W. Rabak, and A. H. Clark, Chicago (Journal A. M. A., Sept. 6, 1919), report the examination of American-made synthetic drugs. Owing to the war, the United States has become independent of Germany so

far as a number of important synthetic remedies are concerned. New official names have been given to several of these, license for the manufacture of which has been granted by the Federal Trade Commission . . . "arsphenamin (contracted from the scientific name arsenophenolamin) for salvarsan, arsenobenzol, diarsenol, arsaminol; barbital (contracted from the scientific name diethyl-barbituric acid) for veronal; barbitol-sodium (the sodium salt of barbital) for 'veronal-sodium' and 'medinal'; cinchophen for atophan or phenylcinchoninic acid (the U. S. P. IX name); procain for novocain hydrechlorid (from 'pro' and '(co)cain'), and procain nitrate for novocain nitrate." Chemical tests were made to insure a high standard of purity without hardships to the manufacturer, a standard equal to or better than that of the German made product. These were carried out in the laboratory of the A. M. A., and the essential features of this work are reported in the article. The conclusion from these examinations so far are summarized as follows: "1. American chemists are producing synthetic drugs formerly controlled by Germany, and thus have declared their independence of German chemicals. 2. Judging from the evidence at hand, we can feel assured that the quality of American synthetics will be second to none."

DRUG IDIOSYNCRASY

R. A. Cooke, New York (Journal A. M. A., Sept. 6, 1919), calls attention to some of the peculiar drug reactions, and refers to his former paper on the allergic action of drugs, contributed by him in connection with Vander Veer, in which they estimated that approximately 10 per cent. of all persons manifest some form of hypersensitiveness. The confusion betweeen allergy and anaphylaxis as forms of hypersensitiveness is explained as follows by Cooke: Anaphylaxis is an antigen anti-body reaction, artificially induced by immunologic processes. Allergy is a term used to express the natural hypersensitiveness of the individual not produced by immunologic processes, as the exciting agent or allergens are in many cases not capable of producing antibodies. The pollen-produced fevers are such reactions. "In experiments carried on with Coca and Flood we could not demonstrate antibody in the individual during an attack or injection of pollen extract by passive transfer, nor could antibody be produced in the guinea-pig itself. In other words, the extract is nonantigenic. Other substances, such as glue and certain drugs like acetylsalicylic acid, to which individuals react peculiarly, are also nonantigenic. To be sure, many of the substances to which the human being does show clinical hypersensitiveness are capable of forming antibodies. Hence, the confusion between the natural hypersensitiveness or allergy and the artificial or anaphylaxis." One proof of the allergic nature of abnormal drug reaction is the fact that they are inherited. Of fifteen cases, noticed in this paper, positive antecedents of hypersensitiveness existed in twelve, and in the other three there were evidences of other forms of allergy, such as asthma, hay fever or urticaria. Cooke describes the symptoms of drug reaction, as observed by him, more especially of the acetylsalicylic acid reaction, which has been most frequent. In nine of the fifteen cases, violent bronchial asthma was induced, lasting from eight to thirty-six hours, and, in one instance, three weeks. In one case urticaria appeared. No attempt is made to give a complete summary of the subject, but only to emphasize the fact that such a condition exists. Cooke

offers the following tentative classification of drug reactions in concluding his paper: "1. Normal action — side action and toxic action. 2. Idiosyncratic action (a) exaggerated normal action; (b) exaggerated side action; (c) lessened normal action (tolerance). 3. Alergic action—abnormal action."

FILARIAL PERIODICITY

K. M. Lynch, Charleston, S. C., (Journal A. M. A., Sept. 6, 1919) takes up the phenomenon of the disappearance during certain portions of the day of filaria in the blood, as in the case of F. bancrofti, which disappears during the hours of sleep, and F. loa, during the hours of activity. Until Smith and Rivas developed the acetic acid concentration method of counting the number of microfiliariae in a given amount of blood, "filarial periodicity" signified the periodic appearance and disappearance of these organisms in the peripheral blood. Smith and Rivas have been able to show, by the acid concentration method of counting, that filaria embryos are to be found in the peripheral blood at all times of the day and night, and that the periodicity is a matter of the relative number thus circulating, and have been led to form a new theory in explaining the phenomenon. They found that the period of greatest prevalence of F. Bancrofti is from midnight to 8 a. m., while the period of cutaneous prevalence of F. loa is from 8 a. m. to 4 p. h., the maximum being about noon. Regarding these periods as those respectively of (a) greatest peripheral relaxation from a condition of fatigue, in sound sleep, (b) of recovery from fatigue and resumption of peripheral capillary tone, and (c) of capillary constriction from the combined influences of tone and of compression from muscular activities, and believing that both filariae are restricted in their motility by their ensheathment, Smith and Rivas advance a theory in which the mechanics of the capillary circulation plays the main part. In brief, the theory is that each kind of parasite is in smallest numbers when it has the easiest progress through the relaxed capillaries, because there are therefore less of them found in the same quantity of blood. Supporting this mechanical theory they have performed experiments aiming at altering circulatory conditions and capillary caliber. Lynch has also experimented on two species of filaria, using nitroglycerin as a dilator and epinephrin and pituitary extracts to constrict the capillary circulation. Experiments during sleep were also made. His conclusions are given substantially as follows: The administration of nitroglycerin is followed by a decrease in the number of filariae during both periods of prevalence and of paucity, while epinephrin or pituitary extract has the reverse effect. In a collapsed lung, with which experiments were also conducted, the F. immitis accumulated in enormous numbers, and its period of cutaneous prevalence was directly connected with sleep. The venous drainage of a part contains fewer filariae than the capillaries; there are still fewer when accumulation in the capillaries is produced by vascular stimulation, and following this capillary accumulation the venous drainage contains larger numbers.

DIAGNOSTIC INCISION OF TUMORS

While it is generally accepted that there is need of an early diagnosis to obtain satisfactory treatment of cancers, the diagnosis is often very difficult in tumor cases, and there is a prejudice against exercising fragments

for inspection, as F. C. Wood, New York (Journal A. M. A., Sept. 6, 1919), points out. In a moderate number of cases this prejudice is justified by the effects of such incisions in hastening the progress and the spread of malignant disease. The whole question, he says, has been well discussed by Ewing, who thinks biopsy justified if necessary for the diagnosis. It is undeniable that most cases of cancer, calling for operation are so far advanced that a good pathologist will not make a diagnostic mistake. Wood, however, has seen operations done for lesions which had been wrongly diagnosed. There is still a tendency, too, to treat ulcerative lesions of the mouth too long without operation, especially if the patient gives a positive Wasserman reaction. On the other hand, the claim that exploratory incision into a tumor is invariably followed by spreading or metastasis to regional lymph nodes is not correct. Wood has never acceded to the view that the opening of blood vessels is extremely risky, because the blood flow tends to wash particles out of the cut vessels into other parts, as the blood flow tends to wash them out from the vessels. The effect, moreover, of opening the lymph channels, he says, has not been studied scientifically, and he holds that the massage or manipulation, alone of the tumor, is a very dangerous procedure. This seems to him a good subject for experimentation. In an experiment that he conducted, he used rat tumors that usually metastasize, such as the Flexner-Jobling carcinoma and the Crocker-Fund-Rat-Sarcoma No| 10. There were 384 animale tested in the latter group. In the first named group the percentage of metastases after probatory excision was 22.2, while in those without this incision it was 21.8, and in still another group, in which the disease was allowed to progress to a more advanced stage, the percentage of metastases was 32.2. On a similar experiment with the Crocker-Fund-Rat-Sarcoma No. 10, no increased metastasis followed incision. He concludes that the human tumors are probably not widely spread by incision, and he holds that when they are so situated as to call for a mutilating or dangerous operation an incision is justifiable if required for diagnosis. It is preferable that such diagnosis be made at once, before operating, if possible, by frozen section, so that if necessary the tumor can be operated on directly under the same anesthesia.

.. .. TRANSILLUMINATION .. ..

A. G. Bettman, Portland, Ore, (Journal A. M. A., Sept. 6, 1919), suggests the use of transillumination as an aid in locating and removing foreign bodies in the tissues. Any body that will cast a shadow can be located, he says, in a surprisingly short time. Having cut down to the supposed location of the foreign body and arranged the light, the operator looks through a tube at the tissues, which may be held up or otherwise manipulated. A dark room is unnecessary. The foreign substance once located, it is easy to remove. The tube may be of any suitable material and, in an emergency, a roll of paper may be used. The angle at which it is used can be varied to meet conditions, and even deeply embedded material can frequently be located without the necessity of inserting the tube into the wound.

ADHESIVE PLASTER

A. L. Soresi, New York (Journal A. M. A., Sept. 6, 1919, recommends the use of the common rubber cement used for patching rubber tires, diluted about ten times in ether, for painting

the area of skin on which adhesive plasters must be applied for traction and similar purposes. There is difficulty in making plasters adhere in many cases because of soaking from the secretions of the wounds, etc., or because of inflamed skin. The addition of the rubber solution renders the plaster very much more adhesive, and in cases in which there is much secretion, he paints the outside of the plaster with the same solution.

TYPHOID CARRIERS

Referring to Circular 69, issued by the Chief Surgeon of the American Expeditionary Forces, in February, 1919, giving evidence of an increase of typhoid and paratyphoid fever among the overseas troops, E. H. Schorer ((Kansas City), Hoboken, N. J., (Journal A. M. A., Sept. 6, 1919), presents a report of examinations of returning soldiers made to determine how many chronic carriers there might be among them. The methods used are described, and the laboratory seems to have been especially adapted for the search, as an intensive survey for intestinal parasites was already being conducted there by Major Kofoid. Of all the strains from the stools of 1,000 men, including members of practically all divisions isolated at the same time to reduce the percentage error, only two gave sufficiently definite reactions to warrant their identification as true pathogens. One culture proved to be Bacillus dysenteriae of the Hiss-Russel-Y type, while the other was B. dysenteriae of the Flexner type. Neither of the men had been suffering from bacillary dysentery. In addition to the two strains mentioned, twenty-eight strains of nonlactose fermenters were isolated which gave carbohydrate fermnetations, characteristic of the types sought, but which agglutinated with their respective serums in dilution of 1:100, and, at most, at 1:500. "Since the serums used were of high titer (B. typhosus serum 1:32,000 B. paratyphosus A and B serums 1:16,000, and B. dysenteriae, serum 1:4,000) and because repeated subcultivating on agar failed to increase the agglutinability of these strains, these organisms were finally classed as intermediates. Eleven other strains, which on preliminary tests fermented only glucose and mannite with gas, and agglutinated with the paratyphoid serums in dilutions of 1:100 and 1:500, later fermented lactose after prolonged incubation. These were undoubtedly slow colons. Their detection emphasizes the necessity of long incubation (two weeks) of the lactose serum water and litmus milk cultures, and also of carrying out agglutination tests in higher dilutions, before making any final bacteriologic diagnosis." If time had permitted the use of cultures on brilliant green agar, more isolations might have been made, no doubt. The method used was deemed sufficient in a great majority of cases, and the results showed that the infections in the American Expeditionary Forces during the autumn and early winter of 1918 had remained limited and had given rise to no aftermath of carriers.

GUNSHOT FRACTURES

J. A. Blake, New York (Journal A. M. A, Sept. 6, 1919) describes the characteristics of fractures due to gunshot wounds, according to the nature of the projectile and the bone involved. It was found that operation to prevent or eliminate infection was not indicated in wounds caused by rifle balls, when the wounds of entrance and exit were punctate, but was indicated in all fractures caused by shell or grenade fragments. [With shrapnel-

ball wounds it was indicated only if good technic was possible. Consensus of opinion was that the operation should be limited to that necessary to prevent contamination and remove actually detached fragments. Primary and delayed cuture of the accompanying wounded soft parts could be carried out by a good surgeon under favorable conditions when continued observation was possible. With infection present or anticipated, free dependent drainage was imperative. As regards transport of fractures, he says nothing more than that traction is absolutely necessary, and that the Thomas leg and arm splints are the most efficient for the purpose. In regard to the treatment until consolidation and return of function, that of suspension and traction by proper weights and pulleys is most satisfactory. The principles of treatment are given based on the fact that in every fracture of a long bone the proximal fraction tends to occupy a certain position, determined by the muscles attached, which may be called its place of election or rest. This tendency is readily modified up to certain limits by external force. Traction of the distal fragment prevents overriding and shortening and harmful angulation, while proper suspension permits a certain amount of movement in bed without disturbing the bone. A little amount of motion between the fragments does not delay union, but seems to aid it. With traction and suspension properly applied, it is possible to move all joints of the leg during the treatment. The general rules are to avoid actual fixation, to employ traction to the greatest possible extent for overcoming deformity, and to afford the greatest freedom of movement. The chief and underlying principle is conservation of function. In no case of arm and leg fracture are circular bandages employed, but some modifications must be used in fractures of the femur. In many fractures of the lower third of the femur, the axis of traction must be lower than the axis of the proximal fragment, and support be given below the distal fragment. When possible, in all thigh bone fractures, skeletal traction, preferably with Ransohoff's tongs, is made directly on the lower fragment, and in some cases of fracture of the lower third, the tongs may be used to lift the distal fragment into position by elevating the axis of traction. Some other points are mentioned in detail, and while it is impossible to make a statistical comparison of end-results because of the short stay of patients during convalescence, the results at the end of the war, as far as gunshot fractures are concerned, were beyond comparison with those obtained at the beginning. The treatment is also shown as possessing like advantages in the small number of similar civilian cases.

WAR FRACTURES

While, during the war, a vast number of fractures have been treated by various methods, the advantages of a standard method are indisputable, according to J. B. Walker, New York (Journal A. M. A., Sept. 6, 1919. Many surgeons cling to discredited methods, and Walker hoped to present evidence that would convince them of their error. The need for improvement is shown by the fact that among the men examined for the last draft there were found 23,338 suffering from malunion of fractures. The statistics, in hospital records, do not show the desired results from treatment, and it is to be hoped that the war department will take measures to render its valuable records available. Many hospitals suffered from lack of equipment, and

fifteen specially equipped hospitals, with a qualified personnel, were designated as those to which all patients in cases of fracture of the long bones should be transferred. It was not permitted that this arrangement should apply to patients already under treatment, and only such fresh patients as arrived from overseas were thus transferred, while the request for the transfer of patients in peripheral nerve cases to eleven designated special hospitals was approved. Osteomyelitis has been the most serious complication of fractures and has occurred in at least 50 per cent. of the cases. The statistics of such cases treated are given, and it is believed that the figures will be increased by further data. It is too early to give end-results, but it may be useful to record some general impressions gained. For the transporting of the patient from the field, the Thomas or Blake-Keller modification is unquestionably the best type of splint, and during the period of infection of a lower extremity, the Thomas or Hodgens splint, with the Balkan frame and extension by suspension and traction, has given the best results. During 1917-1918, there has been a great increase in the use of the caliper. For humerus and elbow fractures, the Thomas arm splint, with the Balkan frame and sufficient extension, has been most satisfactory. In a large majority of hospitals, measurements have been neglected. Tape measures are as essential as thermometers. Too few roentgenograms have been taken regularly, and bad end-results are often due to neglect in carrying out recognized methods. Young, able, alert surgeons with good hospital experience will have splendid future opportunities in this work.

BONE FISTULAS

P. Chutro, Buenos Aires (Journal A. M. A., Sept. 6, 1919, objects to the term osteomyelitis as applied to the suppuration of bone after war wounds, a name which he would reserve for the definite disease occurring in civil practice. He would designate the war complications as bone fistula, a definite condition with characteristics different from true osteomyelitis. The bone fistula, he says, is due to insufficient treatment of wounds, and is a limited osteitis which readily becomes chronic. The two factors dominating it are the presence of a cavity with rigid walls, and the infection of this cavity. Certain peculiarities of these cavities, which communicate with the exterior of the body, are the fungus growths, instead of healthy granulations, which characterize them, underneath and between which it is easy to probe denuded bone. In some cases, the little sequestra of bone are eliminated, and after months or years the fungosities sclerose, and a cure of variable duration occurs. The infection, he holds, is very superficial, and the bacteriology is very rich, showing all the anaerobic and aerobic organisms of such wounds. The infection phenomena are not so prominent as the cavity has little ability to retain its contents, and the lymphatics around the focus are blocked. But a slight disturbance or an awkward dressing breaks up this blockade, and septic products are absorbed. The treatment varies, according to the bone involved. The incision must be properly placed, and the walls of the cavity cleanly resected. The cicatrization of the bone is by granulation from the depths to the periphery. The surface of the bone must remain sterile for several weeks to provide time for this cicatrization. The Carrel-Dakin treatment finds its place

here. Tibial wounds are the most accessible to the sight and so have enabled Chutro to study the cicatrization. When there is a clot adherent to the bone, the Carrel-Dakin fluid fails to penetrate, but begins to act when this becomes detached. When the bony surface is covered with granulations, the secondary closure of the wound may be done, but this is likely to leave an adherent scar, and Chutro prefers to keep up the irrigation until complete healing occurs. He has obtained, on the whole, very satisfactory results in these cases, even after many previous operations had failed.

MOUNTING SPECIMENS IN GELATIN

Kelley Hale, Wilmington, Ohio, (Journal A. M. A., Sept. 6, 1919), recommends the mounting of the smaller anatomic and pathologic specimens in gelatin, between two plates of glass separated from each other by strips of glass fastened by volatilized Canada balsam. This method has an advantage over the use of larger containers for small specimens, and gives better visibility. The specimens can be filed away then like lantern slides.

MOSQUITO CONTROL

New Jersey's work in mosquito control is described by W. E. Darnall, Atlantic City, N. J. (Journal A. M. A., Sept. 6, 1919). New Jersey has had an unenviable notoriety because of its mosquitoes, but conditions are no worse there than in other seaboard states bordered by extensive salt marshes. The pioneer in the scientific study of mosquito control was the late Dr. John B. Smith, State Entomologist whose work caused the most perfect organization against the pest, anywhere in the world. Darnall describes the success of the work in the neighborhood of Camp Merritt, an embarkation camp to which the government was enabled to send millions of soldiers without the development of a single case of malaria. Of the forty different species of mosquitoes in New Jersey, practically the only ones of economic importance are the house mosquito and the malarial anopheles group. The real problem is to rid the state fo Aedes sollicitans which at times makes life miserable for nearly half the population by reason of its long flights from the seacoast. About 16,000,000 feet of 10 by 30 in. ditching (about one-third of it in the County of Atlantic) have been cut in the salt marshes, of which there are about 296-000 acres in the State—about one-half the work that needs to be done. In the next five years the rest of the marsh lands will be drained, and then New Jersey will be able to say that the mosquito pest is conquered. The per capita cost to the population protected, thus far, is about 15 cents. After the work is done the maintenance of it is of supreme importance, and the annual cost of this has been estimated as averaging about thirty-five cents per acre. The organization of the county units for this purpose is described. With intelligent cooperation and intensive study of the subject to meet the engineering problems, the drainage in many communities, it is thought, can be done with comparatively small expenditure. The article is illustrated.

WAR FRACTURES

Some lessons of the war from the treatment of fractures are set forth by E. W. H. Grove, Bristol, England ((Journal A. M. A., Sept. 6, 1919. He says no ingenuity of invention or improvement in operation can compare in importance with the three principles

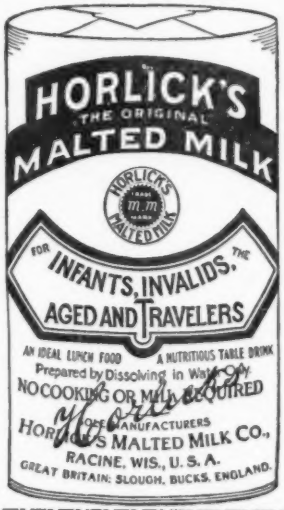
of segregation, continuity and team work as regards their good influence in both our knowledge of, and good results in, the treatment of broken bones. This is evident in the retrospect of the war, and it will also surely be evident in the future work of practice. If cases of bad fracture were segregated in certain wards, while the less severe cases were treated in an attached out-patient department, and the whole until placed under one chief with a proper team, a real advance might be made, and opportunities for valuable research and needed education would be afforded. The securing of later proper functioning of the part should be the objective in all cases. The importance of treating the muscles and joints must be kept always in mind. The education and mental treatment are also essential, and the keynote, here, must be simplicity and common sense. The splint treatment and the modern method of extension are described in some detail as regards their essential principles. The author describes a method of his own in the use of his wire cradle splint for leg fractures, as follows: "The leg, in a position of semiflexion of hip and knee, is slung to the cradle by flannel and rubber bandages, the latter being placed opposite the wounds. Counterextension from the sound groin secures full adduction of the wounded leg. Extension of the fracture is by means of a transfixion pin driven through the lower end of the femur or the upper end of the tibia. The only weight used is a 5 or 10 pound iron weight, which can be multiplied two, three or fourfold by means of pulley blocks attached to the transfixion pin and to the uprights which form a part of the lower end of the splint. The patient is nursed on a three part 'biscuit' mattress, the center section of which is replaced by an air cushion. For this may be substituted the bed pan or a sandbag under the sound buttock for dressing of a high wound. The lower end of the splint is hooked or tied to the lower bar of the bed." Groves has used transfixion methods for many years, and has seen a troublesome sepsis in some cases, which he lays ot the seton action of the pin. The paper contains many more details of interest, too fully stated to be abstracted. Nonunion, he thinks, is usually due to imperfect contact of the fragments, which is often overlooked at the time when it could be corrected. The use of bone grafts is also described, in its mechanical and operative details, and the importance of the periosteum is emphasized. In conclusion, Groves says that one should bear in mind that advance in the treatment of fractures should be looked for on the lines of specialized teamwork. ". . . fracture repair involves mechanical as well as physiologic principles, and whether it is in the education of the surgeon, the design or application of a splint, or the cutting and fitting of a bone graft, mechanics and surgery must go together, so that correct and efficient mechanism is always a part of surgical technic." The article is illustrated.

DERMATOLOGY

O. H. Foerster, Milwaukee (Journal A. M. A., Aug. 30, 1919, says that as compared with the voluminous literature concerned with the cutaneous expression of disease, that dealing with affections of the mucous membrane is disproportionately small, though the subject warrants greater consideration than has been given it. The occurrence of papules and vesicular and exudative processes in the mucosa in connection with various diseases is often noticed, but those of special interest to the dermatologist, aside from syphilis,

are the lesions of the mucous membrane, associated with disorders classified as typically cutaneous. Among this group are lichen planus, erythema multiforme, dermatitis herpetiformis, the three varieties of pemphigus, erythematous lupus, lupus vulgaris, herpes and impetigo herpetiformis, mostly dermatoses of constitutional origin. The involvement of the mucus membranes is of regular occurrence in many of these conditions and may proceed to cutaneous symptoms or, more rarely, constitute the only manifestation of the disease. Foerster reviews at length the symptomatology of lichen planus, which is one of the most accurately studied affections of the mucous membranes, and is of comparatively frequent occurrence. The essential lesion is a papule, convex, conical or flattened, hard, whitish gray, and of pin-head size or smaller. These lesions are discrete and scattered or arranged in groups or lines, and are without an inflammatory halo. Foerster quotes Liederthal's description as accurate and concise. In addtiion to its appearance in the oral cavity, lichen planus appears also sometimes on the vaginal and urethral mucosa, and not infrequently on the glans penis. Foerster has observed that lichen planus of the skin, with itching, is very often diagnosed as itch by the practitioner, and advises examination of the mouth in these cases. Lupus erythematosus may also be limited to the mucous membranes entirely, which is rare, or for a time preceding its appearance on the skin or scalp. Its recognition under these circumstances is difficult and dependent on the stage of the process. In the early stages, recognition may be almost impossible, as the affection begins with a bluish-red, slightly elevated spot indefinitely outlined on the oral mucosa, with sometimes slight erosion. Within a few days, however, the margins become elevated and distinct in outline, and delicate, vascular striations are observed, converging toward the center of the lesion, which is now depressed and eroded. Later it increases in depth, loses its inflammatory character and enters on the stage of atrophy and quiescence. Its resemblance to syphilis is like that of lichen planus and sometimes may cause confusion. Other dermatoses in the mouth are not so likely to have this mistake made concerning them, though erythema multiformis and pemphigus may also suggest the mucous patches of syphilis. Foerster gives points of diagnostic differention, such as the polycyclic outlines and collarette of epithelial shreds, and the facts that the lesions are usually painful and bleed readily, are always superficial and not infiltrated, and are always inflammatory in their borders. Urticaria, angioneurotic edema and purpura often involve the mucous membranes of the nose, mouth and alimentary tract. Drugs may cause erosive lesions; and acanthosis nigricans, made known by Politzer, affects the lips and mouth with considerable regularity. Several other constitutional diseases, like scurvy, pellagra, acute leukemia and pernicious anemia, often affect the mucous membranes, as well as tuberculosis, syphilis, etc. Three conditions to which Foerster directs attention are. First, "geographic tongue," regarding which some confusion seems to exist; this he has boserved most often in adults and very rarely in children. Second, Moeller's glossitis, the description of which by Harris is quoted. Third, Vincent's disease, which he thinks will probably become an important factor in the differential diagnosis of mucosal disease with the return of soldiers from Europe. The spirilla of Vincent are known as the causative agents and are readily seen in dark

Avoid imitations by specifying "Horlick's" the Original Malted Milk this is the package


HORLICK'S
THE ORIGINAL
MALTED MILK
FOR INFANTS, INVALIDS, THE AGED AND TRAVELERS
AN IDEAL LUNCH FOOD
A NUTRITIOUS TABLE DRINK
Prepared by Dissolving in Water Only
NO COOKING OR MILK REQUIRED
HORLICK'S MALTED MILK CO.,
RACINE, WIS., U. S. A.
GREAT BRITAIN: SLOUGH, BUCKS, ENGLAND.

Prescribe "Horlick's" for your patients convalescing from Influenza and concurrent epidemics.

It has been successfully used over a third of century in anemic and run-down conditions, and is today extensively endorsed by the medical profession in the feeding of INFANTS. nursing mothers and the aged.

Samples prepaid upon request

Horlick's Malted Milk Co.

RACINE, WIS.

field preparations. The possibility of confusion with syphilis is not remote, and their similarity to mucous patches may be striking. The possibility of the coexistence of the two diseases should be kept in mind, as mercurial treatment may stir up a quiescent Vincent's disease in the syphilitis.

WANTED — "Competent trained nurse to do certain amount of welfare work in connection with other duties at new Cotton Mill four miles from Rock Hill. Hamilton Carhartt Cotton Mills, Rock Hill, S. C."

Broadoaks Sanatorium

MORGANTON, N. C.

A private Hospital for the treatment of Nervous and Mental Diseases, Inebriety and Drug Habits. A home for selected Chronic Cases

ISAAC M. TAYLOR, M. D., Supt. and Resident Physician.

Laboratories of Drs. Bunce and Landham

ATLANTA, GEORGIA

ALLEN H. BUNCE, A.B., M.D.
Director Pathological Dept.

JACKSON W. LANDHAM, M.D.
Director X-Ray Dept.

The laboratory of clinical pathology is well equipped for making pathological, bacteriological, serological and chemical examinations for physicians and surgeons. All specimens reported upon on the same day received where practicable.

The X-Ray laboratory is equipped with a modern 10 Kilowatt Snook Transformer and a Single Unit Victor Table adaptable to both vertical and horizontal fluroscopy and radiography. Both diagnostic and treatment work is done in this department personally by Dr. Landham, who was formerly associated with Dr. W. F. Manges in Roentgenology at the Jefferson Medical College and Hospital.

Fee lists and containers for pathological specimens and information in reference to X-ray work furnished upon request.

ADDRESS

DRS. BUNCE & LANDHAM

821-826 HEALEY BLDG. ATLANTA, GEORGIA

Dr. Robert W. Gibbes **Dr. Floyd D. Rodgers**

DRS. GIBBES AND RODGERS

Roentgenologists,

Columbia, S. C.

Dr. Robert W. Gibbes desires to announce to the profession that Dr. Floyd D. Rodgers, who has recently returned from overseas service, is now associated with him in his X-Ray work.